

U.S. Department of Energy  
Office of River Protection  
Mr. R. J. Schepens  
Manager  
P.O. Box 450, MSIN H6-60  
Richland, Washington 99352

CCN: 047345

Dear Mr. Schepens:

**CONTRACT NO. DE-AC27-01RV14136 – TRANSMITTAL FOR INFORMATION–  
AUTHORIZATION BASIS CHANGE NOTICES**

Bechtel National, Inc. (BNI) is submitting three Authorization Basis Change Notices (ABCN) to the U.S. Department of Energy, Office of River Protection, and the Safety Regulation Division (OSR) for information (attached).

The contractor-approved ABCNs listed below are a result of the Hanford Tank Waste Treatment and Immobilization Plant project's design evolution changes.

*(Note that the affected authorization basis documents are identified in parenthesis.)*

- 24590-WTP-ABCN-ENS-02-014, Revision 0, *HLW Pour Tunnel Lidding Station Removal & Canister Rack Modifications* (24590-WTP-PSAR-ESH-01-002-04, Revision 0) – This change modifies the High Level Waste (HLW) Facility Pour Tunnel Lidding Station Removal & Canister Rack within the Preliminary Safety Analysis Report (PSAR) for HLW.
- 24590-WTP-ABCN-ENS-02-016, Revision 0, *Reagent Supply System Design Update* (24590-WTP-PSAR-ESH-01-001-04, Revision 0, and 24590-WTP-PSAR-ESH-01-002-04, Revision 0) – This ABCN relocates the reagent room at the –21 ft. level to the 11 ft. level directly above its old position in the southwest corner of the High Level Waste (HLW) facility.
- 24590-WTP-ABCN-ENS-02-028, Revision 0, *Design Changes Associated with High Level Waste Vitrification System HSH-Mechanical Handling Diagram-Melter Cave Support Handling-Melter Cave 1* – This ABCN adds a Posting Box, decontamination pit with gamma interlocked hatch, shield window, C5 ventilation for the decontamination pit, and Important to Safety misreeving detection associated with the crane hoist to the HLW PSAR.

Electronic copies of the attached ABCNs are provided for the OSR's information and use.

Please contact Mr. Bill Spezialetti at 371-5778 for any questions or comments.

Very truly yours,

R. F. Naventi  
Project Director

TR/slr

Attachment: 1) Authorization Basis Change Notice 24590-WTP-ABCN-ENS-02-014, Revision 0  
2) Authorization Basis Change Notice 24590-WTP-ABCN-ENS-02-016, Revision 0  
3) Authorization Basis Change Notice 24590-WTP-ABCN-ENS-02-028, Revision 0

cc: Name (ALPHABETIZE)	Organization	MSIN
Barr, R. C. w/a (1 hard copy and 1 electronic copy)	OSR	H6-60
Barrett, M. K. w/o	ORP	H6-60
Beranek, F. w/o	WTP	MS6-P1
Betts, J. P. w/o	WTP	MS14-3C
DOE Correspondence Control w/a	ORP	H6-60
Ensign, K. R. w/o	ORP	H6-60
Erickson, L. w/o	ORP	H6-60
Galioto, T. M. w/a	WTP	MS7-FSE
Green, L. w/a	WTP	MS6-P2
Hamel, W. F. w/o	ORP	H6-60
Hanson, A. J. w/o	ORP	H6-60
Hotrod, D. J. w/a	WTP	MS6-R2
Klein, D. A. w/o	WTP	MS6-P1
Krahn, D. E. w/a	WTP	MS6-R1
Nakao, R. M. w/a	WTP	MS4-B2
Naventi, R. F. w/o	WTP	MS14-3C
PDC w/a	WTP	MS5-K.1
QA Project Files w/a	WTP	MS14-4B
Ryan, T. B. w/a	WTP	MS6-R1
Smith, B. K. w/a	WTP	MS6-P2
Spezialetti, W. R. w/o	WTP	MS6-P1
Taylor, W. J. w/a	ORP	H6-60
Tosetti, R. J. w/o	WTP	MS4-A2
Varma, K. w/a	WTP	MS6-M2
Veirup, A. R. w/o	WTP	MS14-3B

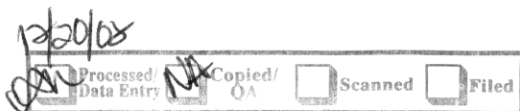


# DOCUMENT INFORMATION

Sheet 1 of 1

Please complete the following information when submitting a document to PDC.

<b>Correspondence (CCN) No:</b>	<b>Rev: N/A</b>						
<b>Document No: 24590-WTP-ABCN-ENS-02-014</b>	<b>Rev: 0</b>						
<b>Project Information (Check Applicable Box)</b> <input type="checkbox"/> Balance of Facilities <input type="checkbox"/> Pretreatment <input checked="" type="checkbox"/> HLW Vitrification <input type="checkbox"/> LAW Vitrification <input type="checkbox"/> Analytical <input type="checkbox"/> External Interfaces <input type="checkbox"/> Across all areas							
<b>Document is applicable to ALARA?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No In general, any record that deals with Radiation, Radioactive Material, Occupational Dose, Dose Reduction, or Dose Rate are considered ALARA Records. (See 24590-WTP-GPP-SRAD-002, <i>Application of ALARA in the Design Process</i> , section 4.8 for additional guidance)							
<b>Additional Information for Correspondence</b> Subject Code(s) _____ <b>Action Item Information.</b> (This section does not apply to Meeting Minutes.) <input checked="" type="checkbox"/> No Action Item within the correspondence <input type="checkbox"/> Action(s): (Give a brief description of actions in the following space [optional] ) _____  Due Date: _____ (If no due date is indicated, a 2-week period will be assigned.) Action Owed to: _____  Actionee(s) <table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> This correspondence closes action on Correspondence Number _____							
<input type="checkbox"/> Subcontract Files _____ Copies <input type="checkbox"/> PAAA Coordinator MSII-B <input type="checkbox"/> Contains SENSITIVE Information							





# Authorization Basis Change Notice

Page 1 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-014 Revision 0

ABCN Title HLW Pour Tunnel Lidding Station Removal & Canister Rack modifications

ISSUED BY  
RPP-WTP PDC  
INIT 12/18/02  
DATE

## I. ABCN Review and Approval Signatures

### A. ABCN Preparation

Preparer: Lisa Green 12/18/02  
Print/Type Name Signature Date  
Reviewer: Ken Varma 12/18/02  
Print/Type Name Signature Date

### B. Required Technical Reviewers

Review Required? *For each person checked, that signature block must be completed.*

<input checked="" type="checkbox"/>	E&NS Manager	<u>OK 12/18/02</u> <u>Fred Beranek</u>	<u>Pete Lowry</u>	<u>12/19/02</u>
		Print/Type Name	Signature	Date
<input checked="" type="checkbox"/>	QA Manager	<u>OK 12/18/02</u> <u>George Shell</u>	<u>Walt Hinger for</u>	<u>12/19/02</u>
		Print/Type Name	Signature	Date
<input type="checkbox"/>	Operations Manager			
		Print/Type Name	Signature	Date
<input type="checkbox"/>	Commissioning/Training Manager			
		Print/Type Name	Signature	Date
<input checked="" type="checkbox"/>	Manager of Engineering	<u>Fred Marsh</u>	<u>S. Fyuk</u>	<u>12/18/02</u>
		Print/Type Name	Signature	Date
<input type="checkbox"/>	Construction Manager			
		Print/Type Name	Signature	Date
<input checked="" type="checkbox"/>	Area Project Manager	<u>Phil Schuetz</u>	<u>Phil Schuetz</u>	<u>12/18/02</u>
		Print/Type Name	Signature	Date
<input type="checkbox"/>	Research & Technology Manager			
		Print/Type Name	Signature	Date
<input type="checkbox"/>	PMT Chair			
		Print/Type Name	Signature	Date
<input checked="" type="checkbox"/>	HLW Document Custodian	<u>Dwight Krahn</u>	<u>Carl Dougherty for D. Krahn</u>	<u>12/19/02</u>
		Print/Type Name	Signature	Date

### C. ABCN Approval

OK 12/18/02  
PSC Chair Bill Poulson NA  
Print/Type Name Signature Date  
OK 12/18/02  
ENS mgr Ron Naventi Fred Beranek 12/19/02  
WTP Project Director Print/Type Name Signature Date  
OK 12/18/02

\* Per Rev. 4 of 24590-WTP-GPP-SREG-001 and 24590-WTP-GPP-SREG-002



# Authorization Basis Change Notice

Page 2 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-014 Revision 0

ABCN Title HLW Pour Tunnel Lidding Station Removal & Canister Rack modifications

## II. Description of the Proposed Change to the Authorization Basis

D. Affected Authorization Basis and Implementing Documents (drawings, procedures, plans, etc):

Title	Document Number	Revision
Preliminary Safety Analysis Report to Support Construction Authorization; HLW Facility Specific Information	24590-WTP-PSAR-ESH-01-002-04	0

E. Describe the proposed changes to the Authorization Basis documents. Include specific references to the AB documents and design documents that are to be changed:

24590-WTP-PSAR-ESH-01-002-04

Chapter 2, Section 2.4.11.7

- Equipment list - Delete lidding stations

Chapter 2, Section 2.4.12.5

- The canister storage cave is designed to retain as many as 45 canisters, should read 46 canisters

Chapter 2, Section 2.4.19.5

- Buffer/Cooling Racks paragraph – They will have a total capacity of 40 canisters, should read 48 canisters.
- Lidding Station paragraph– Delete paragraph.

Chapter 2, Section 2.4.21.1.2

- Remove canister lid handling from list (6<sup>th</sup> item down)

Chapter 2, Section 2.5.4.1

- Second bullet point - remove the following from the text: The lid is removed and both canister and lid are inspected. The lid is replaced and secured.

Chapter 2, Figure 2A-2, 2A-3, 2A-4, 2A-8 & 2A-9

- Figure needs updating in line with Plant Model to show correct rack configurations.

Chapter 2, Figure 2A-31

- Change canister storage racks (40 capacity) to buffer & cooling racks (48 capacity)

Chapter 3, Table 3-10

- The table does not detail all the canister racks in the high level facility. The table should therefore read:



# Authorization Basis Change Notice

Page 3 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-014

Revision 0

ABCN Title HLW Pour Tunnel Lidding Station Removal & Canister Rack modifications

E. Describe the proposed changes to the Authorization Basis documents. Include specific references to the AB documents and design documents that are to be changed:

HRH Canister Rack (16 canisters) SCIV

HPH Canister Cooling Rack (24 canisters) SCIII

HPH Canister Buffer Rack (24 canisters) SCIII

HDH Canister Rack (1 canister) SCIII

HEH Canister Storage Rack (46 canisters) SCI

F. Explain why the change is needed:

The current baseline requires the canister to be supplied from the manufacturer with the permanent lid, which would remain with the canister as it travels into the HLW facility. The lid is removed at the Pour Tunnel Lidding Stations prior to the canister being filled. After the canister has been filled, the lid is replaced and the canister travels to the Welding Station where the permanent lid is welded to the canister.

The current baseline complies with the *Waste Compliance Plan for Immobilized High Level Waste, RPT-W375HV-TE00008* specification 3.1 to 3.4, which states that the canister must be protected from the ingress of free liquids, gases, explosive, pyrophoric or combustible and organic materials. The current baseline method of covering the canister involves using complex equipment, the Lidding Stations, in a location with limited accessibility.

It is proposed that administrative controls and the design of the overhead cranes may instead be used to inhibit foreign debris from entering the canister. Drip trays may be designed into the crane gearbox housings, thus adding extra protection against dripage of crane oil or grease into the canister.

There is no manned entry to either the Canister Handling Cave or the Pour Tunnel, thus minimizing the potential for Protective Clothing from being a source of debris. Administrative controls, such as Loose Article Control, may be put in place to limit extraneous materials from being introduced into the canister handling areas to further reduce the chance of introducing foreign debris into the canister. By inhibiting foreign debris from entering the canister, there is no need for the Lidding Stations in the Pour Tunnel.

The PSAR identifies all HLW canister racks as seismic category I (SC-1). However, the System HPH Canister Cooling Rack, System HPH Canister Buffer Rack, and System HDH Canister Rack are contained within C5 areas. Because this places these three racks inside of seismically qualified C5 boundaries they can be classified as seismic category III (SC-3). The System HEH Canister Storage Rack is contained within a C3 area. Because it is not contained within a seismically qualified boundary it will remain classified as a seismic category I (SC-1). The System HRH Canister Rack will contain clean and empty canisters as they enter the facility. Because they will contain no contaminants or radioactive material they do not require a seismically qualified boundary. Thus, they are classified as seismic category V (SC-4). Canister racks should be identified with the appropriate seismic category and the number of canister positions. Section 3.4.2.1 needs updating to reflect the above.



# Authorization Basis Change Notice

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ABCN Number 24590-WTP-ABCN-ENS-02-014 Revision 0

ABCN Title HLW Pour Tunnel Lidding Station Removal & Canister Rack modifications

## III. Summary of Safety Evaluation

- G. DOE approval of this AB change is not required because the Safety Evaluation has determined that the change meets all the criteria for Contractor approval of the change.

Summarize the results of the Safety Evaluation by checking the statements below for Administrative Control changes OR Facility changes, not both. Add clarifying remarks, as necessary, to provide complete and accurate information.

Safety Evaluation No. 24590-WTP-SE-ENS-02-017 rev 0, 24590-WTP-SE-ENS-02-032 Rev 0

- ☐ For an Administrative Control:

This administrative control change does not affect the SRD. The change falls beneath the level of detail described in the Code of Federal Regulations applicable to the project (10 CFR 820, 10 CFR 830, and 10 CFR 835). The change conforms to the requirements in the top-level safety standards (e.g., DOE/RL-96-0006). The change provides adequate safety because the applicable questions on the Safety Evaluation have been answered in a way that ensures adequate safety following the change. The change conforms to contract requirements and will not result in inconsistencies with other AB or authorization agreement commitments or descriptions.

Remarks:

- ☒ For a Facility Control:

This facility change does not affect the SRD. The change does not create a new DBE or increase the frequency or consequence of an analyzed DBE. The change does not result in a decrease in the safety function of an ITS SSC or change how an SDC SSC meets its respective safety function. The change falls beneath the level of detail described in the Code of Federal Regulations applicable to the project (10 CFR 820, 10 CFR 830, and 10 CFR 835). The change conforms to the requirements in the top-level safety standards (e.g., DOE/RL-96-0006). The change provides adequate safety because the applicable questions on the Safety Evaluation have been answered in a way that ensures adequate safety following the change. The change conforms to contract requirements and will not result in inconsistencies with other AB or authorization agreement commitments or descriptions.

Remarks:

- H. Attachments (if any):







# Authorization Basis Change Notice

Page 2 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-016 Revision 0

ABCN Title Reagent Supply System Design Update

## II. Description of the Proposed Change to the Authorization Basis

D. Affected Authorization Basis and Implementing Documents (drawings, procedures, plans, etc):

Title	Document Number	Revision
HLW Vitrification Building General Arrangement Plan at EL. -21'-0"	24590-HLW-P1-P01T-00001	1
HLW Vitrification Building General Arrangement Plan at EL. 11'-0"	24590-HLW-P1-P01T-00003	0
HLW Vitrification Building General Arrangement Section G-G and H-H	24590-HLW-P1-P01T-00010	4
Process Flow Diagram HLW Vitrification Reagents (System NAR, SHR, AMR, and DIW)	24590-HLW-M5-V17T-00008	3
P&ID-HLW Sodium Hydroxide Reagent System Sodium Hydroxide Supply	24590-HLW-M6-SHR-00001	C
P&ID-HLW Demineralized Water System Demineralized Water Distribution	24590-HLW-M6-DIW-00001	C
P&ID-HLW Nitric Acid System Nitric Acid Supply	24590-HLW-M6-NAR-00001	0
Preliminary Safety Analysis Report To Support Partial Construction: HLW Facility Specific Information	24590-WTP-PSAR-ESH-01-001-04	0
Preliminary Safety Analysis Report To Support Construction: HLW Facility Specific Information	24590-WTP-PSAR-ESH-01-002-04	0

E. Describe the proposed changes to the Authorization Basis documents. Include specific references to the AB documents and design documents that are to be changed:

**Section 2.4.11.14 of documents 24590-WTP-PSAR-ESH-01-001-04 and 24590-WTP-PSAR-ESH-01-002-04** currently describes the reagent tank room (H-B052) at the -21 ft elevation, this room has been relocated to the 11 ft elevation directly above its old position in the SW corner of the building. The majority of the tank instrumentation listed in this section is no longer required. We currently only require a level instrument in each reagent tank. The new reagent room (H-0214) bermed area is not lined with stainless steel as stated in this section, but instead chemical resistant epoxy paint will be applied to the concrete.

**Table 3-3 of documents 24590-WTP-PSAR-ESH-01-001-04 and 24590-WTP-PSAR-ESH-01-002-04** currently list the old BNFL style tank numbers, these numbers have been updated to the BNI RPP-WTP project format. Nitric tanks T36001 and T36004 are now NAR-TK-00001 and NAR-TK-00002, respectively.

**Figures 2-1 and 2-4 in 24590-WTP-PSAR-ESH-01-001-04 and figures 2A-1, 2A-3, and 2A-9 in 24590-WTP-PSAR-ESH-01-002-04** show the General Arrangement drawings and sectionals with the reagent room in the -21 ft elevation. Although these figures are marked for "illustration purposes only" they are not consistent with the design of the reagent room at the 11 ft elevation.

**Figure 2A-40 in 24590-WTP-PSAR-ESH-01-002-04** also shows an old revision of the PFD. Although this figure is also marked for "illustration purposes only" it is not consistent with the current design.



# Authorization Basis Change Notice

Page 3 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-016 Revision 0

ABCN Title Reagent Supply System Design Update

**Appendix B.4.1.2 in 24590-WTP-PSAR-ESH-01-002-04** describes the reagent room as a C5 area that is entirely below grade. This room has been moved to the 11 ft elevation and will therefore be removed from this section.

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F. Explain why the change is needed:

Preliminary Safety Analysis Report to Support Partial Construction Authorization, Section 2.4.11.14, Reagent Tank Room (H-B052) describes the reagent tank room at the -21 ft level. This room was moved up to the 11 ft level per DCA 24590-HLW-DCA-PL-02-001, *Relocation of the Reagents Room – Room #H-B052*.

The instrumentation listed is no longer required in the tanks per DCN 24590-HLW-DCN-PR-02-010, *Delete Temperature, Conductivity, and Pressure Indication for tanks*. We currently only require a level instrument in each reagent tank.

The bermed area is not lined with steel but instead a chemical resistant paint applied to the concrete as described in 24590-HLW-FD-PR-01-001, HLW Vitrification Facility Sump and Liner Characterization Document (Below Grade).

Preliminary Safety Analysis Report to Support Partial Construction Authorization, Table 3-3, HLW Process and By-product Chemicals and Inventories lists the old BNFL style tank numbers, these numbers have been updated to the BNI RPP-WTP project format.

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### III. Summary of Safety Evaluation

G. DOE approval of this AB change is not required because the Safety Evaluation has determined that the change meets all the criteria for Contractor approval of the change.

Summarize the results of the Safety Evaluation by checking the statements below for Administrative Control changes OR Facility changes, not both. Add clarifying remarks, as necessary, to provide complete and accurate information.

Safety Evaluation No. 24590-WTP-SE-ENS-02-028 Rev 0

☐ For an Administrative Control:

This administrative control change does not affect the SRD. The change falls beneath the level of detail described in the Code of Federal Regulations applicable to the project (10 CFR 820, 10 CFR 830, and 10 CFR 835). The change conforms to the requirements in the top-level safety standards (e.g., DOE/RL-96-0006). The change provides adequate safety because the applicable questions on the Safety Evaluation have been answered in a way that ensures adequate safety following the change. The change conforms to contract requirements and will not result in inconsistencies with other AB or authorization agreement commitments or descriptions.

Remarks:



# Authorization Basis Change Notice

Page 4 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-016 Revision 0

ABCN Title Reagent Supply System Design Update

☒ For a Facility Control:

This facility change does not affect the SRD. The change does not create a new DBE or increase the frequency or consequence of an analyzed DBE. The change does not result in a decrease in the safety function of an ITS SSC or change how an SDC SSC meets its respective safety function. The change falls beneath the level of detail described in the Code of Federal Regulations applicable to the project (10 CFR 820, 10 CFR 830, and 10 CFR 835). The change conforms to the requirements in the top-level safety standards (e.g., DOE/RL-96-0006). The change provides adequate safety because the applicable questions on the Safety Evaluation have been answered in a way that ensures adequate safety following the change. The change conforms to contract requirements and will not result in inconsistencies with other AB or authorization agreement commitments or descriptions.

## Remarks:

All changes are within the intent of the AB documents. All changes are consistent with top level standards and do not result in non-conformance of the contract requirements.

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H. Attachments (if any):

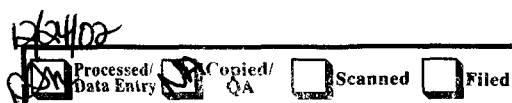


## DOCUMENT INFORMATION

Sheet 1 of 1

Please complete the following information when submitting a document to PDC.

<b>Correspondence (CCN) No:</b>	<b>Rev: N/A</b>						
<b>Document No: 24590-WTP-ABCN-ENS-02-028</b>	<b>Rev: 0</b>						
<b>Project Information (Check Applicable Box)</b> <input type="checkbox"/> Balance of Facilities <input type="checkbox"/> Pretreatment <input checked="" type="checkbox"/> HLW Vitrification <input type="checkbox"/> LAW Vitrification <input type="checkbox"/> Analytical <input type="checkbox"/> External Interfaces <input type="checkbox"/> Across all areas							
<b>Document is applicable to ALARA?</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No In general, any record that deals with Radiation, Radioactive Material, Occupational Dose, Dose Reduction, or Dose Rate are considered ALARA Records. (See 24590-WTP-GPP-SRAD-002, <i>Application of ALARA in the Design Process</i> , section 4.8 for additional guidance)							
<b>Additional Information for Correspondence</b> Subject Code(s) _____ <b>Action Item Information.</b> (This section does not apply to Meeting Minutes.) <input type="checkbox"/> No Action Item within the correspondence <input type="checkbox"/> Action(s): (Give a brief description of actions in the following space [optional] ) _____  Due Date: _____ (If no due date is indicated, a 2-week period will be assigned.) Action Owed to: _____  Actionee(s) <table border="1"><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> This correspondence closes action on Correspondence Number _____							
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# Authorization Basis Change Notice

Page 1 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-028

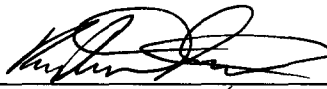
Revision 0

ABCN Title Design changes associated with High Level Waste Vitrification System HSH - Mechanical Handling Diagram - Melter Cave Support Handling -Melter Cave 1.

## I. ABCN Review and Approval Signatures

### A. ABCN Preparation

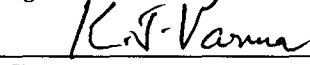
Preparer: Bryan K Smith  
Print/Type Name

  
Signature

12/18/02  
Date

ISSUED BY  
RPP-WTP PDC  
On 12/24/02  
INIT DATE

Reviewer: Ken Varma  
Print/Type Name

  
Signature

12/18/02  
Date

### B. Required Technical Reviewer

Review For each organization checked, that signature block must be completed.  
Required?

☒ E&NS

Pete Lowry

Print/Type Name

  
Signature

12/19/02  
Date

☒ QA

 George Shell

Print/Type Name

  
Signature

12/23/02  
Date

☒ AB Document Custodian

Dwight Krahn

Print/Type Name

  
Signature

12/18/02  
Date

☐ Commissioning/Training

Print/Type Name

Signature

Date

☒ Engineering

Fred Marsh

Print/Type Name

  
Signature

12/23/02  
Date

☐ Construction

Print/Type Name

Signature

Date

☒ Area Project Manager

Phil Schuetz

Print/Type Name

  
Signature

12/18/02  
Date

☐ Project Archives Document Control

Print/Type Name

Signature

Date

☐ Other Affected Organization


Print/Type Name

Signature

Date

### C. ABCN Approval

E&NS Manager Fred Beranek  
Print/Type Name

  
Signature

12/23/02  
Date



# Authorization Basis Change Notice

Page 2 of 4

ABCN Number 24590-WTP-ABCN-ENS-02-028

Revision 0

ABCN Title Design changes associated with High Level Waste Vitrification System HSH - Mechanical Handling Diagram - Melter Cave Support Handling -Melter Cave 1.

## II. Description of the Proposed Change to the Authorization Basis

D. Affected Authorization Basis and Implementing Documents (drawings, procedures, plans, etc):

Title	Document Number	Revision
HLW VITRIFICATION SYSTEM HSH	24590-HLW-M7-HSH-00001001	0 (When Issued)
MECHANICAL HANDLING DIAGRAM	24590-HLW-M7-HSH-00001002	0 (When Issued)
MELTER CAVE SUPPORT HANDLING		
MELTER CAVE 1		
Preliminary Safety Analysis Report to Support Construction Authorization; HLW Facility Specific Information	24590-WTP-PSAR-ESH-01-002-04	0

E. Describe the proposed changes to the Authorization Basis documents. Include specific references to the AB documents and design documents that are to be changed:

The design includes Posting Box HSH-TWDVC-00001 with several ITS controls. This SSC was not identified in the PSAR and is not currently identified in the Appendix A Hazards Assessment Report. A draft CSD-HSH/0013 has been created within SIPD for this SSC. The posting box information needs to be added to section 2.4.12.1 of the PSAR. The section will need a statement describing the function of the posting box and that the posting box is a portion of the C5 containment boundary. The posting box will be used to transfer tools and miscellaneous items into the melter cell from the C2 corridor. Add Posting Box to bolded subtitles in sections 4.3.11.1 and 4.3.11.2 of the PSAR. (Example: Change "Gamma Detector Interlock for the Shield Doors, PSADs, and Shielded Hatches" to "Gamma Detector Interlock for the Shield Doors, PSADs, Shielded Hatches, and Posting Ports"). Add posting boxes to first sentence of section 5.3.2.2 of PSAR. ITS items on the posting box need to be added to Table 4.1.

The design includes the addition of a decontamination pit with a gamma interlocked hatch, shield window, and C5 ventilation that is not identified in the PSAR. The pit and decon tank are used for decontaminating items after they have been removed from the melter cave so that hands on maintenance can be performed on the items. These additions have been approved through trend TN-24590-02-00601. See also DCA's 24590-HLW-DCA-M-02-017 and 24590-HLW-DCA-M-02-018. Section 2.6.5 of the PSAR needs to be updated to include the decontamination pit in the list of systems served by the C5 ventilation. The Decontamination Pit and Tank need to be added to section 2.4.14.1 of the PSAR. The section will require a statement describing the function of the Decontamination Pit and Tank and that the pit will form a C5 boundary.

ITS misreeving detection associated with the crane hoists is not identified in the PSAR. This will be clarified in SCR-HMECH/N0001.



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- E. Describe the proposed changes to the Authorization Basis documents. Include specific references to the AB documents and design documents that are to be changed:

“Hoisting equipment shall be designed appropriately (including parameters such as material selection, operating conditions, operating methods, operating speeds, controls and interlocks) to minimize unplanned and uncontrolled load movement including load drops.”

Add a line at the end of the first paragraph of PSAR Sections 4.4.9.2 and 4.4.10.2 stating that the hoist drums have cable misreeving detection to reduce the probability of damage to the hoist ropes.

In PSAR Chapter 5, develop a Limiting Condition for Operation, as necessary, for the active, ITS SSCs associated with the crane load path components. This should include any ITS SSC operability and surveillance requirements.

- F. Explain why the change is needed:

Align the design document with the Authorization Basis Document due to trend approval. The majority of these changes are associated with the Cycle III ISM review. The decontamination pit, decontamination tank, C5 ventilation, and gamma interlocked hatch have been added to better facilitate decontamination. A posting port has been added to reduce time and effort of importing small items into the melter cave.

### III. Summary of Safety Evaluation

- G. DOE approval of this AB change is not required because the Safety Evaluation has determined that the change meets all the criteria for Contractor approval of the change.

Summarize the results of the Safety Evaluation by checking the statements below for Administrative Control changes OR Facility changes, not both. Add clarifying remarks, as necessary, to provide complete and accurate information.

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- ☐ For an Administrative Control:

This administrative control change does not affect the SRD. The change falls beneath the level of detail described in the Code of Federal Regulations applicable to the project (10 CFR 820, 10 CFR 830, and 10 CFR 835). The change conforms to the requirements in the top-level safety standards (e.g., DOE/RL-96-0006). The change provides adequate safety because the applicable questions on the Safety Evaluation have been answered in a way that ensures adequate safety following the change. The change conforms to contract requirements and will not result in inconsistencies with other AB or authorization agreement commitments or descriptions.



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Remarks:



For a Facility Control:

This facility change does not affect the SRD. The change does not create a new DBE or increase the frequency or consequence of an analyzed DBE. The change does not result in a decrease in the safety function of an ITS SSC or change how an SDC SSC meets its respective safety function. The change falls beneath the level of detail described in the Code of Federal Regulations applicable to the project (10 CFR 820, 10 CFR 830, and 10 CFR 835). The change conforms to the requirements in the top-level safety standards (e.g., DOE/RL-96-0006). The change provides adequate safety because the applicable questions on the Safety Evaluation have been answered in a way that ensures adequate safety following the change. The change conforms to contract requirements and will not result in inconsistencies with other AB or authorization agreement commitments or descriptions.

Remarks:

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H. Attachments (if any):